

GCS	BIOLOGY	CURRICULUM	SUPPORT	DOCUMENT
Unit 1: Nature of Life		Number of Days: 16		
Essential Standard	Student Friendly Objective	Assessment / Evidence of Proficiency	Instructional Strategies / Resources / Informational Technology Integration	Essential Vocabulary
<i>What is Life? (Unifies multiple standards)</i>	TSW identify, describe, and discuss features of living things.	Teacher-made Quiz-- Features of Living Things Hydra Lab (use to show organization, metabolism, response, asexual reproduction...)	Exploring NC in the Classroom: Exploring NC in the Classroom: Form and Function "Blood Flow and Thermoregulation" Asexual Reproduction video clip "The Red Queen" video clip comparing/contrasting sexual and asexual reproduction Articles to illustrate features of living things (students can identify metabolism, response, reproduction, etc.): Box Turtle Profile Sheet Fox Squirrel Profile Sheet Striped Skunk Profile Sheet Other Profile Sheets. NC Species Info. Interactive for illustrating Organization (organism down to DNA)	metabolism, response, stimulus, reproduction (sexual and asexual) adaptation, fitness, regulation/ homeostasis, organization, growth, development, metamorphosis
3.5 Analyze how	3.5.1 TSW show understanding	Teacher-made Quizzes on	Sorting images/information	taxonomy, binomial

classification systems are developed based upon speciation.	of classification systems including the six-kingdom system and the seven major taxonomic levels.	<p>Classification and Kingdoms</p> <p>Multiple Choice on-line Classification Quiz</p> <p>Taxonomy & Phylogenetic Trees Handout</p> <p>ClassScape Quiz - - Classification and Dichotomous Keys</p>	<p>into proper kingdoms</p> <p>"What Did T. Rex Taste Like?" an online cladogram-building activity</p> <p>Newton's Apple--links to Animals and Plants</p>	nomenclature, KPCOFGS; prokaryote, eukaryote
	3.5.2 TSW classify organisms using a dichotomous key.	<p>Dichotomous Key</p> <p>Fish Sorting</p>	<p>Dichotomous keys:</p> <p>Dichotomous Key Tutorial</p> <p>Pamishan creatures Salamander Key</p> <p>Shark Key</p> <p>Dichotomous Key to Aliens lesson plan</p>	dichotomous key
	3.4.3 TSW compare and contrast disease-causing agents in terms of prevention and treatment.	Bacteria Model Assessment	<p>Bacterial Cell Model</p> <p>Viral Transmission Lab</p> <p>Bacteria Toon Movie Clip--who, where, biofilms....</p> <p>Understanding Bacteria DE Video segments</p> <p>Binary Fission in Bacteria</p> <p>"Rotting Food" video clip....proteins, bacteria, enzymes, and more!</p> <p>Rise in Antibiotic Resistance Simulation/Clip</p> <p>Nova Now Video Clip--H1N1 Flu</p> <p>H1N1 Flu: The Next</p>	antibiotic resistance, pathogen, mutation, exponential growth, limiting factor, antibiotic, virus, plasmid, passive immunity, active immunity, antigen

			Pandemic? Lesson plan Immune Responses Student Interactive	
	1.2.3 TSW identify structural and behavioral adaptations of amoeba, euglena and paramecium	Unit Test--Nature of Life	http://www.biologycorner.com/lesson-plans/phyla Paramecium Euglena Amoeba article and diagram to color	contractile vacuoles, cilia, flagella, pseudopods, eyespots
Unit 2: Ecology		Number of Days:		
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<p>2.1 Analyze the interdependence of organisms within their environment.</p>	<p>2.1.1 TSW analyze the flow of energy and the cycling of matter in ecosystems.</p>	<p>Owl Pellet Dissection Lab</p> <p>Drag and Drop Build a Food Web Online Activity/Assessment</p>	<p>Owl Pellet Dissection</p> <p>Energy Pyramid Foldable Student Information Page for Energy Foldable</p> <p>Food Web Whole Class Activity---utilizes cards and yarn</p> <p>Traveling Nitrogen Classroom or Outdoors Activity</p> <p>Traveling Carbon Cycle Activity</p> <p>The Ultimate Guide: Birds of Prey</p> <p>Mystery of the Missing Sea Otters</p> <p>Hydrothermal Vent Food Web & Comparison of Photosynthesis and Chemosynthesis</p> <p>Requirements for Life: The Nitrogen Cycle DE Clip</p> <p>Requirements for Life: The Carbon Cycle DE Clip</p> <p>"Interdependence, Recycling, and Adaptation"</p>	<p>ecological pyramids--energy, numbers & biomass, 10% energy law, ecosystem, heterotrophic, autotrophic, producer, consumer, nitrogen cycle, nitrogen-fixing bacteria, decomposition, carbon cycle, carbon dioxide, greenhouse effect, photosynthesis, respiration, sustainability</p>
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	2.1.2 TSW discuss behavioral, structural, and reproductive adaptations in terms of an organism's survival and reproductive success.	Hydra Lab	"Beneficial Adaptations of Species of the Galapagos" USDA Plants Database Plants in Motion---germination & tropisms time lapse videos "Where's the Octopus" video clip	autotrophic nutrition, heterotrophic nutrition, ingestion, absorption, decomposer, fungi, vascular, nonvascular
	2.1.3 TSW analyze ecosystem stability in terms of interactions between organisms, including predator-prey, competition, and symbiotic relationships.	Graphing Activity/ Assessment--Deer Population	Project Wild activity "Good Buddies" + accompanying worksheet "Deer Tick" video clip "Caribbean Cleaners" cleaning symbiosis video clip Cowbird Social Parasitism Nova Video Clip Kaibab Deer Article and Graphing (activity or assessment) Termite Symbiosis and Lichens from Science Friday PBS Symbiosis Activity and Volcanoes of the Deep Teachers Domain Video Clip Leafcutter Ants & Fungi Symbiosis Video Clip	predator, prey, competition, parasite, host, symbiosis, mutualism, commensalism, parasitism

	2.1.4 Identify ecosystem-altering factors such as food, shelter, predators, disease, and climate, analyzing their impact on ecosystem stability.		"Living on \$500 a Year" "Panther Hunt" "Pop Ecology Files" "Power of the Pyramids"	biotic, abiotic, logistic growth, exponential growth, population density, limiting factors (density-dependent and density-independent), carrying capacity, dynamic equilibrium
2.2 Understand the impact of human activities on the environment (one generation affects the next.)	2.2.1 TSW Analyze the impact of human activities (population growth, pollution, global warming, fossil fuel burning, habitat destruction, and nonnative species) on the environment.		Carbon Series from NPR ("It's all about Carbon") Interactive Map of Climate Change Effects map	habitat, niche, nonnative, global warming,
	2.2.2 TSW Investigate the long-term effects of human activities on the environment.	Invasive Species Project	Pythons in the Everglades "Eradicating Malaria with DDT" "Biological Invaders" Exploring NC in the Schools: "Invaders Among Us" Contaminants in the Arctic Food Chain Video Clip and Discussion Questions	deforestation, bioaccumulation, biological magnification, nonbiodegradable
Unit 3: Cells		Number of Days:		
Essential Standard	Student Friendly Objective	Assessment/Evidence of Proficiency	Instructional Strategies/ Resources/ Informational Technology Integration	Essential Vocabulary

<p>1.1 Understand the relationship between the structures and functions of cells and their organelles.</p>	<p>1.1.1 TSW identify the structure and function of the following eukaryotic organelles: nucleus, plasma membrane, cell wall, mitochondria, vacuoles, chloroplasts, and ribosomes. TSW be able to summarize the organelle interactions in performing the functions of the cell.</p>	<p>Student Cell Models</p> <p>Animal and Plant Cells Lab(s)</p> <p>"Cell City Analogy" (one to complete + create your own)</p> <p>Lab--Human Cheek Cells</p> <p>Virtual Cheek Cell Lab</p> <p>Plant Cell Lab and Make-up Lab</p> <p>Quiz--Cell Organelles</p> <p>Quiz--Cell Structure and Function</p> <p>"Edible Cell" Lesson Plan (may substitute icing for applesauce...)</p> <p>Cell Analogies Poster Project</p> <p>Cell Analogies Project II</p>	<p>Cell Organelles Foldable</p> <p>Cell Parts Flashcards</p> <p>Animal Cell Coloring Page</p> <p>Plant Cell Coloring Page</p> <p>Cells Alive Internet Lesson</p> <p>Comparing Plant and Animal Cells Lab---Students can use disposable slides and methylene blue to observe their cheek cells. Elodea and onion epidermal cells stained with iodine are easily obtained for students to view plant cells.</p> <p>Students create a Venn diagram comparing plant and animal cells.</p> <p>Magic of Cells Clips</p> <p>Lysosome Function tutorial</p> <p>"Subcellular Compartments" (good background reading and pics)</p> <p>Harvard BioVisions animations: cell processes: mitochondrion</p> <p>Student Interactive Tour Inside A Cell</p> <p>Cell Structures Student Self-Assessment Interactive</p>	<p>cell, organelle, cytoplasm, eukaryote, nucleus, plasma membrane, cell wall, mitochondria, vacuoles, chloroplasts, ribosomes, surface area</p>
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	1.1.2 TSW compare prokaryotic and eukaryotic cells in terms of structure and level of complexity.	Comparing Cell Types Activity--create and laminate student cards, chart, and Venn diagram	<p>Students classify a teacher-generated list of characteristics in a Venn diagram to compare prokaryotic and eukaryotic cells.</p> <p>Article--"Shaquille O'Neal of Bacteria"</p>	prokaryotic, eukaryotic, DNA, membrane-bound organelle, chromosomes, plasmids
	1.1.3 TSW explain cell differentiation as the result of selective gene expression and environmental factors.	Quiz--Stem Cells (8 mult. choice questions with feedback)	<p>Understanding Stem Cells Student Handout and links</p> <p>"What Do Specialized Cells Do?" animations</p> <p>Learn Genetics Utah Stem Cells</p> <p>Stem Cell Coloring Guide</p> <p>Stem Cells Primer</p> <p>Tutorial about Cell Differentiation (includes animations)</p> <p>Stem Cells Video featuring Planaria click here</p>	multicellular, differentiation, specialization, adult stem cell, embryonic stem cell, gene activation, gene deactivation, gene expression, chemical signal

<p>1.2 Analyze the cell as a living system.</p>	<p>1.2.1 TSW will predict how cells and organisms maintain homeostasis in various environments with a focus on temperature, pH, glucose and water balance.</p>	<p>Diffusion Lab</p>	<p>Homeostasis clip from BBC</p> <p>Passive Transport DE Video Clip</p> <p>Active Transport DE Video Clip</p> <p>"Smelly Balloons" diffusion demonstration</p> <p>Osmosis in Potatoes & Plasmolysis in Elodea Lab</p> <p>Potato Osmosis Lab 2</p> <p>Osmosis "Fish" Demonstration</p> <p>Baggie Diffusion Lab (can modify to a demo)</p> <p>Gummy Bear Osmosis Lab (can modify to a demo)</p> <p>Osmosis & Red Blood Cells Animation</p> <p>Osmosis & Diffusion Animation</p>	<p>homeostasis, pH, osmoregulation, thermoregulation, diabetes, passive transport, plasma membrane, diffusion, osmosis, facilitated diffusion, transport protein, active transport, protein pump</p>
	<p>1.2.2 TSW analyze how cells grow and reproduce summarizing the stages of the cell cycle.</p>	<p>Quiz--Mitosis</p> <p>Quiz--Comparing Mitosis and Meiosis</p>	<p>Arizona Biology Project Online Mitosis Tutorial & Lab</p> <p>Mitosis & Cytokinesis DE Video Clips</p> <p>Mitosis Flip Book Activity</p> <p>Cell Cycle Labeling Handout</p> <p>Mitosis Type & Print Worksheet</p>	<p>cell cycle, interphase, asexual reproduction, prophase, metaphase, anaphase, telophase, mitosis, cytokinesis, cell plate, centrioles, spindle, centromere, chromatids</p>

<p>4.1 Understand how biological molecules are essential to the survival of living organisms.</p>	<p>4.1.1 TSW classify compounds into groups (carbohydrates, nucleic acids, lipids, proteins) and describe the essential functions of these compounds.</p>	<p>Quiz--Biochemistry Vocabulary</p>	<p>CPNL foldable</p> <p>CPNL walk-around</p> <p>Lab--Testing for Life's Molecules lab instructions</p> <p>Testing for Organic Compounds Virtual Lab</p> <p>Tree of Life's Macromolecules--would make a great webquest</p>	<p>molecule, compound, organic, inorganic, carbohydrate, protein, nucleic acid, lipid, monomer, polymer, amino acid, nucleotide</p>
	<p>4.1.2 TSW summarize the central dogma of biology (DNA codes for proteins, which are the key molecules determining cell structure and function.)</p> <p>3.1.2 TSW recognize amino acids connected by peptide bonds as the structural basis for proteins.</p> <p>TSW classify proteins according to their function.</p>		<p>Biological Compounds Walk-Around (provide examples of things that are entirely or largely one particular type of compound for students to observe and classify--ex--keratin (feathers, hair); collage (bone); cooking oil (lipid); pasta, bread, potato (starch)</p> <p>Biological Compounds Venn Diagram</p> <p>Worksheet and Background--From Genetic Code to Protein</p> <p>"Proteins" video from Newton's Apple: Protein Model Activity</p>	<p>DNA, gene, amino acid, protein, nucleus, ribosome, RNA</p>

	4.1.3 TSW list properties of enzymes and investigate the effect of enzymes on biological reactions.	Enzyme Flip Book--Chance for kids to be Creative!!	Enzyme Animation Enzyme specificity match-up cards (each student receives a card with a specific enzyme or substrate and locates its "match") Enzymes Foldables (notes alternative) Salivary amylase lab (test tube version) handout Salivary amylase instructions for making starch agar plates Catalase lab (example) Enzyme One Page Cartoon Toothpickase Activity	enzyme, substrate, activation energy, catalyst, catalyze, active site, specificity, enzyme-substrate complex, optimum, denaturation
	4.2.1 TSW summarize photosynthesis and respiration in terms of how energy is stored, released, and transferred within and between these processes.	Quiz--Photosynthesis (very basic with instant feedback)	Photosynthesis & Respiration Foldable Example 1 Photosynthesis & Respiration Foldable Example 2 Animation--"Cellular Respiration: The Big Picture" Waterweed Simulation--Effect of Light on Photosynthesis Virtual Lab Newton's Apple Photosynthesis Video Clip Teacher's Guide Yeast Fermentation "Bread Chemistry" video clip and teacher's guide (yeasts, etc.)	reactants, products, chlorophyll, anaerobic, aerobic

	4.2.2 TSW conclude that all organisms require energy for maintaining homeostasis.		ATP Interactive Cartoon	ATP, homeostasis, active transport, toxin, synthesis
UNIT 4: Genetics		Number of Days:		
Essential Standard	Student Friendly Objective	Assessment/Evidence of Proficiency	Instructional Strategies/ Resources/ Informational Technology Integration	Essential Vocabulary
3.1 Explain how traits are determined by the structure and function of DNA.	<p>3.1.1 TSW make a model of DNA, identifying the components of the molecule.</p> <p>TSW recognize that the sequence of nitrogen bases determines the particular protein for which a DNA sequence codes.</p> <p>TSW simulate the process of DNA replication, identifying the phase of the cell cycle when it occurs and describing replication's significance.</p>	DNA model	<p>DNA Background and Color-coding Worksheet</p> <p>DNA Color-coding worksheet</p> <p>DNA Extraction</p> <p>3-D Paper DNA Model</p> <p>DNA Model using pasta and pipe cleaners</p> <p>DNA Workshop Replication and Transcription Activities</p> <p>Build a DNA Molecule (electronically)</p>	DNA, gene, chromosome, nucleotide, nitrogen base, hydrogen bond, complementary, replication, transcription

	<p>3.1.2 TSW understand that DNA produces messenger RNA during transcription.</p> <p>TSW recognize the roles of DNA, mRNA, tRNA, and rRNA in the process of translation (protein synthesis).</p> <p>TSW, given either a DNA or mRNA sequence, use a genetic code table to produce the sequence of amino acids that will form a polypeptide.</p>		<p>Introducing RNAi--intro. to protein synthesis + RNAi</p> <p>Nova video RNAi (intro. to protein synthesis)</p> <p>Protein Synthesis Animated Tutorial</p> <p>AWESOME student-interactive protein synthesis</p> <p>Protein Synthesis Coloring Student Worksheet</p> <p>Starting Idea for Making a Protein "bracelet"</p> <p>Protein Synthesis worksheet</p>	<p>transcription, DNA, messenger RNA, transfer RNA, ribosomal RNA, codon, anticodon, ribosome, translation, amino acid, polypeptide, peptide bond, hormones (peptide), enzymes, phenotype, trait, gene expression</p>
	<p>3.1.3 TSW define mutation and evaluate how a change in DNA sequence can result in a change in protein structure and possibly phenotype.</p> <p>TSW explain that only mutations in sex cells can be passed to offspring.</p> <p>TSW identify causes of mutations (radiation, chemicals.)</p>		<p>Protein Synthesis Activity--Gene to Hemoglobin + Sickle Cell</p> <p>Make a Mutation Activity</p> <p>Mutation Handbook (background)</p>	<p>mutation, deletion, addition, substitution, random, spontaneous, mutagen, gamete, radiation</p>
<p>3.2 Understand how the environment, and/or the interaction of alleles, influences the expression of genetic traits.</p>	<p>3.2.1 TSW compare and contrast mitosis and meiosis (asexual vs. sexual, DNA replication and separation, chromosome number of cell products, number of divisions, number of cells produced.)</p>		<p>Student-constructed Venn Diagram</p> <p>Mitosis Video (short)</p> <p>Meiosis Video (short)</p> <p>Nondisjunction Animation</p> <p>Unique Features of Meiosis</p>	<p>mitosis, meiosis, chromosome, homologous, chromatid, centromere, replication, independent assortment, genetic variation, crossing over, nondisjunction, haploid, diploid, fertilization,</p>

	<p>3.2.2 TSW represent monohybrid genetic crosses as Punnett squares to predict genotypic and phenotypic ratios.</p> <p>TSW use offspring ratios to infer parental genotypes.</p> <p>TSW predict the outcome of crosses involving incomplete dominance and codominance.</p> <p>TSW represent in Punnett Square form various scenarios involving the ABO blood-typing system.</p> <p>TSW identify examples of polygenic traits (skin, hair, and eye color; height.)</p> <p>TSW interpret autosomal inheritance patterns in human genetic disorders: sickle cell anemia, cystic fibrosis, PKU, Tay-Sachs (recessive); Huntington's (dominant.)</p> <p>TSW describe the heterozygote advantage of sickle cell carriers as related to malarial resistance.</p> <p>TSW identify human sex chromosomes and interpret crosses involving sex-linked traits (red-green color-blindness, hemophilia, Duchenne Muscular Dystrophy), explaining why males are more likely to exhibit sex-linked disorders.</p> <p>TSW analyze pedigrees, identifying genotypes of individuals and mode of inheritance.</p>		<p>Monohybrid Tutorial</p> <p>Monohybrid interactive tutorial</p> <p>Monohybrid Practice Problem worksheet (pdf)</p> <p>Monohybrid and Sex-linked Problems</p> <p>Monohybrid Practice Problems</p> <p>Bikini Bottom Vocabulary & Monohybrid Practice Worksheet</p> <p>Bikini Bottom Genetics Practice 2</p> <p>Bikini Bottom Incomplete Dominance Worksheet</p> <p>"Taste Gene" article and video--genotypes, homozygous, heterozygous</p> <p>"Flipping Over Color Blindness" activity</p> <p>Malaria Student Interactive</p> <p>Pedigree Worksheet</p> <p>Online Student Karyotyping Activity</p> <p>Online Student Karyotyping Activity 2</p> <p>Drag and Drop Pedigrees</p> <p>Tay Sachs Net--Case Studies, Basic Information</p>	<p>gene, allele, dominant, recessive, Punnett square, monohybrid, phenotype, genotype, homozygous, heterozygous, incomplete dominance, codominance, polygenic, resistance, autosome, sex chromosome, sex-linked, karyotype, amniocentesis, fetus</p>
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	<p>TSW produce a karyotype for an individual and identify the disorder (Down Syndrome, Klinefelter Syndrome, Turner Syndrome.)</p> <p>TSW recognize nondisjunction as the cause of errors in chromosome number.</p>			
	<p>3.2.3 TSW evaluate the interaction between environmental factors and genes in certain medical conditions, including: lung and mouth cancers and tobacco use; skin cancer, vitamin D, folic acid, and sun exposure; diabetes, diet, and exercise; phenylketonuria and diet; heart disease, diet, and exercise</p>		<p>NIH Fact Sheet about Tobacco and Oral Cancers</p> <p>NIH Fact Sheet: Smoking and Lung Cancer</p> <p>Vitamin D and Cancer Prevention: Strengths and Limits of the Evidence</p> <p>Skin Cancer Foundation</p> <p>Links to Video Clips about Skin Cancer</p> <p>PKU Background Info.</p>	<p>cancer, vitamin D, folic acid, diabetes, insulin, phenylketonuria</p>
<p>3.3 Understand the application of DNA technology.</p>	<p>3.3.1 TSW summarize the steps in gel electrophoresis, emphasizing that this technique separates DNA fragments by size.</p>		<p>Article List--Uses of DNA Fingerprinting</p> <p>DNA Gel Electrophoresis Virtual Lab</p> <p>PBS Make a DNA Fingerprint</p> <p>Virtual DNA Fingerprinting Lab (Honors)</p> <p>DNA Fingerprinting Practice Student Worksheet</p> <p>Spider Goats--very short article</p>	<p>gel electrophoresis, restriction enzyme, DNA fingerprinting</p>

	<p>3.3.2 TSW investigate the use of transgenic organisms in agriculture, industry, and pharmaceuticals.</p> <p>TSW summarize the steps in bacterial transformation.</p>		<p>Ethics of Genetic Modification of Farm Animals--features discussion and writing prompts (cards)</p> <p>Genetic Engineering Interactive Tutorial</p> <p>Prentice Hall Lab Bench Interactive Tutorial--Electrophoresis and Transformation</p> <p>Flinn Sci. Lab Kit--to order or idea to modify</p> <p>"Making Human Insulin" Drag and Drop Tutorial</p>	<p>transgenic organism, bacterial transformation, plasmid, restriction enzyme, recombinant DNA, insulin</p>
	<p>3.3.3 TSW identify reasons why the Human Genome Project was established and describe useful applications of the knowledge gained from it.</p> <p>TSW investigate the application of gene therapy in SCID and cystic fibrosis.</p> <p>TSW debate the ethical issues associated with genomics and biotechnology (stem cell research, gene therapy, GMOs)</p>		<p>Human Genome Project Information</p> <p>HGP: Ethical, Legal, and Social Issues</p> <p>"Designer Babies" video clip</p> <p>"Therapeutic Uses for Stem Cells" interactive</p> <p>"Stem Cell Research" lesson plan</p> <p>Links to video clips about GMOs (ex.--super salmon)</p> <p>NY Times article--great starting point for ethics of DNA screening</p>	<p>genome, Human Genome Project, genomics, gene therapy, genetically-modified organisms, stem cells</p>
UNIT 5: Evolution and Animal Behavior				

Essential Standard	Student-friendly Objectives	Assessment/Evidence of Proficiency	Instructional Strategies/ Resources/ Informational Technology Integration	Essential Vocabulary
3.4 Explain the theory of evolution by natural selection as a mechanism for how species change over time.	3.4.1 TSW explain how fossil, biochemical, and anatomical evidence support the theory of evolution.	Quiz--Mult. Choice (homologous, vestigial, finches, etc.)	Guess the Embryo! interactive Fossil Evidence--Video Clip Activity Using Biochemical Evidence to Compare Evolutionary Relationships Between Organisms Interactive "Voyage of the Beagle"	fossil, biochemistry, anatomy, evolution, DNA, RNA, protein, homologous, vestigial

	<p>3.4.2 TSW represent the process of natural selection in a flow map.</p> <p>TSW illustrate the role of geographic isolation in speciation.</p>	<p>Practice Quiz for Darwin and Natural Selection (instant feedback)</p>	<p>How Natural Selection Works (hummingbird example) video clip</p> <p>Recipe for Evolution "Darwin, the Beagle, and Finches" video clip about evolution</p> <p>"Battle of the Beaks" lab</p> <p>A Bean Lab (indoors. students work in pairs)</p> <p>Exploring Natural Selection Using Teddy Grahams</p> <p>Peppered Moths Interactive Activity</p> <p>EXCELLENT short videos on natural selection. including sickle cell-malaria</p> <p>Natural Selection in Rock Pocket Mice Video Questions</p> <p>"Bottleneck Genes" Activity about Black-footed Ferrets (says 7th grade but adaptable for high school)</p> <p>Black-footed Ferret video to accompany above activity</p> <p>Article--"Islands and Biodiversity"</p> <p>Simple Model for Speciation by Geographic Isolation</p> <p>"Why You Can't Cross a Mouse with a Mango" (speciation, isolation)</p>	<p>species, population, natural selection, exponential, variation, mutation, genetic recombination, finite, favorable, alleles, geographic isolation, speciation</p>
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			Natural Selection Activities "Antibiotic Resistance" very short clip	
	3.5.2 TSW compare organisms on a phylogenetic tree.		Building Phylogenetic Trees PBS Student Interactive Constructing Cladograms Activity Cladistics is a Zip Cooperative Activity or Demonstration Idea	phylogenetic tree, cladogram, primitive, ancestor
2.1 Analyze the interdependence of living organisms within their environments.	2.1.2 TSW analyze behavioral adaptations in terms of evolutionary fitness.	Animal Behavior Quiz	Pavlov's Dog Interactive Behavior Article and links	fitness, innate, learned, suckling, taxis, migration, estivation, hibernation, habituation, imprinting, classical conditioning, trial and error (operant conditioning)
	2.1.3 TSW compare various forms of communication behaviors.		Courtship Behavior Video Clip Links (BBC) Territoriality Video Clips (BBC) Chemical Communication (BBC article and video links) Termite Trail Pheromone Lab Mating Trickery PBS Slideshow "Pack Behavior" clip and lesson ideas (social hierarchy)	territoriality, courtship, pheromones, social behavior

English Language Arts Standards				